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Human Resources Division

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Date: September 18, 2019

To,

Dr. Ipsita P Swain, Dr. Debirupa Hore, Dr. Sachin Rajas, Dr. Milind Kulkarni, Dr. Mayur S Katore
Assistant Professor
School of Engineering,
Ajeenkya D Y Patil University
Pune, Maharashtra

Subject: Approval of Research Project Titled "Boiling Heat Transfer over SS 316 Substrate Using Nanofluids as a Pool"

Dear Dr. Ipsita P Swain,

We are pleased to inform you that your research project proposal titled **"Boiling Heat Transfer over SS 316 Substrate Using Nanofluids as a Pool"** has been reviewed and approved by our organization's funding committee. We recognize the significance of this research and its potential to contribute to the field of heat transfer, particularly through the use of advanced nanofluid technology. We are happy to allocate a total budget of **INR 28,60,000 (Twenty-Eight Lakhs and Sixty Thousand)** for the project, which will span a period of **two years**. This funding reflects our support for innovative research projects that have potential industrial applications and scientific advancements.

Project Overview

This research project aims to study pool boiling heat transfer characteristics over **SS 316 Substrate** using **nanofluids** as the working fluid. Given the importance of efficient heat transfer mechanisms in various industries, including power generation, electronics cooling, and thermal management, this project will explore how nanofluids, known for their enhanced thermal properties, can improve boiling heat transfer performance.

Your project goals include:

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- Investigating the effects of nanofluid concentrations on heat transfer rates and critical heat flux (CHF) over SS 316 substrate.
- Studying the surface modification of SS 316 substrates to enhance boiling performance.
- Optimizing nanofluid compositions for the most efficient heat transfer results.

The potential impact of this research on enhancing energy efficiency and improving heat management systems across industries is highly valuable.

Project Duration and Phases

The project is approved for a period of **two years**, during which you will investigate the heat transfer performance of SS 316 substrates using nanofluids. The project will follow the below phases:

- **Phase 1 (Months 1-6)**: Setup of experimental apparatus and preparation of nanofluid samples for baseline data collection.
- **Phase 2 (Months 7-12)**: Study of boiling heat transfer characteristics at varying nanofluid concentrations.
- **Phase 3 (Months 13-18)**: Investigating the effect of surface modifications on heat transfer efficiency.
- **Phase 4 (Months 19-24)**: Data analysis, optimization of nanofluid composition, and preparation of final reports.

We expect **biannual progress reports** at the end of each phase to track the project's technical milestones and budget usage. A **final report** detailing key findings, research methodologies, and future applications is required upon the completion of the project.

Compliance and Guidelines

We request that all funds be managed in accordance with our organization's financial guidelines. All project-related expenditures should be appropriately documented and reported. Any significant budgetary changes should be communicated for prior approval.

We also require the following submissions during the project duration:

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- **Progress reports** every six months to monitor project advancements.
- **Final research report** summarizing the project's outcomes, methodologies, and any potential commercial applications.
- **Financial report** at the end of the project, detailing fund utilization.

Conclusion

We are excited to support your research on the application of nanofluids in pool boiling heat transfer, as this project has the potential to make valuable contributions to both academic and industrial fields. The outcomes of this study could have far-reaching implications for improving energy efficiency and developing cutting-edge thermal management systems.

Should you have any questions or require further assistance, please feel free to contact our organization's research funding and finance departments. We look forward to your research outcomes and wish you the very best for the successful execution of your project.

With warm Regards

EVP and BU Head
C&H